Complete Summary

TITLE

Coronary artery disease: percutaneous transluminal coronary angioplasty (PTCA) area rate.

SOURCE(S)

AHRQ quality indicators. Guide to inpatient quality indicators: quality of care in hospitals -- volume, mortality, and utilization [version 3.0]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2006 Feb 20. 94 p.

Measure Domain

PRIMARY MEASURE DOMAIN

Use of Services

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the Measure Validity page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the number of percutaneous transluminal coronary angioplasty (PTCA) procedures per 100,000 population.

RATIONALE

Percutaneous transluminal coronary angioplasty (PTCA) is performed on patients with coronary artery disease. No ideal rate for PTCA has been established. PTCA is a potentially overused procedure, and rates vary widely and systematically between areas.

As an area utilization indicator, PTCA is a proxy for actual quality problems. The indicator has unclear construct validity, as high utilization of PTCA has not been shown to necessarily be associated with higher rates of inappropriate utilization. A minor source of bias may be the small number of procedures performed on an

outpatient basis. Caution should be maintained for PTCA rates that are drastically below or above the average or recommended rates.

PRIMARY CLINICAL COMPONENT

Coronary artery disease; percutaneous transluminal coronary angioplasty (PTCA)

DENOMINATOR DESCRIPTION

Population of county or Metro Area associated with Federal Information Processing Standards (FIPS) code of patient's residence or hospital location, age 40 years or older

NUMERATOR DESCRIPTION

Number of percutaneous transluminal coronary angioplasty (PTCA) procedures* in any procedure field among patients age 40 years or older. Exclude Major Diagnostic Category (MDC) 14 (pregnancy, childbirth, puerperium) and MDC 15 (newborns or other neonates).

*Refer to the Technical Specifications document in the "Companion Documents" field for International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes and Diagnosis-related Groups (DRGs).

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE VALUE OF MONITORING USE OF SERVICE

- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Monitoring and planning
Variation in use of service

EVIDENCE SUPPORTING NEED FOR THE MEASURE

AHRQ quality indicators. Guide to inpatient quality indicators: quality of care in hospitals -- volume, mortality, and utilization [version 3.0]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2006 Feb 20. 94 p.

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

External oversight/State government program
Monitoring and planning

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians
Public Health Professionals

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Counties or Cities

TARGET POPULATION AGE

Age greater than or equal to 40 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

In a study of seven Swedish heart centers, 38.3% of all percutaneous transluminal coronary angioplasty (PTCA) procedures were performed for inappropriate indications and 30% for uncertain indications. In a follow-up study of a coronary angiography study conducted in New York, a panel of cardiologists found the rate for inappropriate indications was 12% and the rate of procedures performed for uncertain indications was 27%.

EVIDENCE FOR INCIDENCE/PREVALENCE

Bernstein SJ, Brorsson B, Aberg T, Emanuelsson H, Brook RH, Werko L. Appropriateness of referral of coronary angiography patients in Sweden. SECOR/SBU Project Group. Heart1999 May;81(5):470-7. PubMed

Leape LL, Park RE, Bashore TM, Harrison JK, Davidson CJ, Brook RH. Effect of variability in the interpretation of coronary angiograms on the appropriateness of use of coronary revascularization procedures. Am Heart J2000 Jan;139(1 Pt 1):106-13. PubMed

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

Unspecified

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Not within an IOM Care Need

IOM DOMAIN

Not within an IOM Domain

Data Collection for the Measure

CASE FINDING

Both users and nonusers of care

DESCRIPTION OF CASE FINDING

Population of county or Metro Area associated with Federal Information Processing Standards (FIPS) code of patient's residence or hospital location, age 40 years or older

DENOMINATOR SAMPLING FRAME

Geographically defined

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions
Population of county or Metro Area associated with Federal Information Processing Standards (FIPS) code of patient's residence or hospital location, age 40 years or older

Exclusions
Unspecified

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are not equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Patient Characteristic

DENOMINATOR TIME WINDOW

Time window is a single point in time

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions
Number of percutaneous transluminal coronary angioplasty (PTCA) procedures* in any procedure field among patients age 40 years or older.

*Refer to the Technical Specifications document in the "Companion Documents" field for International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) codes and Diagnosis-related Groups (DRGs).

Exclusions
Exclude Major Diagnostic Category (MDC) 14 (pregnancy, childbirth, puerperium) and MDC 15 (newborns or other neonates).

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Institutionalization

DATA SOURCE

Administrative data

LEVEL OF DETERMINATION OF QUALITY

Does not apply to this measure

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Undetermined

ALLOWANCE FOR PATIENT FACTORS

Analysis by subgroup (stratification on patient factors, geographic factors, etc.)

DESCRIPTION OF ALLOWANCE FOR PATIENT FACTORS

Observed (raw) rates may be stratified by areas (Metro Area or counties), age groups, race/ethnicity categories, and sex.

Risk adjustment of the data is recommended using, at minimum, age and sex.

Application of multivariate signal extraction (MSX) to smooth risk adjusted rates is also recommended.

STANDARD OF COMPARISON

External comparison at a point in time
External comparison of time trends
Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Each potential quality indicator was evaluated against the following six criteria, which were considered essential for determining the reliability and validity of a quality indicator: face validity, precision, minimum bias, construct validity, fosters real quality improvement, and application. The project team searched Medline for articles relating to each of these six areas of evaluation. Additionally, extensive empirical testing of all potential indicators was conducted using the 1995-97 Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) and Nationwide Inpatient Sample (NIS) to determine precision, bias, and construct validity. Table 2 in the original measure documentation summarizes the

results of the literature review and empirical evaluations on the Inpatient Quality Indicators. Refer to the original measure documentation for details.

EVIDENCE FOR RELIABILITY/VALIDITY TESTING

AHRQ quality indicators. Guide to inpatient quality indicators: quality of care in hospitals -- volume, mortality, and utilization [version 3.0]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2006 Feb 20. 94 p.

Identifying Information

ORIGINAL TITLE

Percutaneous transluminal coronary angioplasty area rate (IQI 27).

MEASURE COLLECTION

Agency for Healthcare Research and Quality (AHRQ) Quality Indicators

MEASURE SET NAME

Agency for Healthcare Research and Quality (AHRQ) Inpatient Quality Indicators

DEVELOPER

Agency for Healthcare Research and Quality

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2002 Jun

REVISION DATE

2006 Feb

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

AHRQ quality indicators. Guide to inpatient quality indicators: quality of care in hospitals -- volume, mortality, and utilization [version 3.0]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2006 Feb 20. 94 p.

MEASURE AVAILABILITY

The individual measure, "Percutaneous Transluminal Coronary Angioplasty Area Rate (IQI 27)," is published in "AHRQ Quality Indicators. Guide to Inpatient Quality Indicators: Quality of Care in Hospitals -- Volume, Mortality, and Utilization." This document is available in Portable Document Format (PDF) from the Inpatient Quality Indicators Download page at the Agency for Healthcare Research and Quality (AHRQ) Quality Indicators Web site.

For more information, please contact the QI Support Team at support@qualityindicators.ahrq.gov.

COMPANION DOCUMENTS

The following are available:

- AHRQ quality indicators. Inpatient quality indicators: technical specifications [version 3.0]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2006 Feb 20. 34 p. This document is available in Portable Document Format (PDF) from the Agency for Healthcare Research and Quality (AHRQ) Quality Indicators Web site.
- AHRQ quality indicators. Inpatient quality indicators: software documentation [version 3] - SPSS. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2006 Feb 20. 40 p. (AHRQ Pub.; no. 02-R208). This document is available in PDF from the AHRQ Quality Indicators Web site.
- AHRQ quality indicators. Inpatient quality indicators: software documentation [version 3] - SAS. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2006 Feb 20. 45 p. (AHRQ Pub.; no. 02-R208). This document is available in PDF from the AHRQ Quality Indicators Web site.
- AHRQ quality indicators. Software documentation: Windows [version 3.0]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2006 Feb 20. 72 p. This document is available in PDF from the AHRQ Quality Indicators Web site.
- Remus D, Fraser I. Guidance for using the AHRQ quality indicators for hospital-level public reporting or payment. Rockville (MD): Agency for Healthcare Research and Quality; 2004 Aug. 24 p. This document is available in PDF from the AHRQ Quality Indicators Web site.
- AHRQ summary statement on comparative hospital public reporting. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2005 Dec. 1 p. This document is available in PDF from the AHRQ Quality Indicators Web site.
- Guidance for using the AHRQ quality indicators for public reporting or payment - appendix A: current uses of AHRQ quality indicators and considerations for hospital-level reporting. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2005 Dec. A1-13 p. This document is available in PDF from the AHRQ Quality Indicators Web site.
- Guidance for using the AHRQ quality indicators for public reporting or payment - appendix B: public reporting evaluation framework--comparison of recommended evaluation criteria in five existing national frameworks. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2005 Dec. B1-4 p. This document is available in PDF from the AHRQ Quality Indicators Web site.

- AHRQ inpatient quality indicators - interpretive guide. Irving (TX): Dallas-Fort Worth Hospital Council Data Initiative; 2002 Aug 1. 9 p. This guide helps you to understand and interpret the results derived from the application of the Inpatient Quality Indicators software to your own data and is available in PDF from the AHRQ Quality Indicators Web site.
- UCSF-Stanford Evidence-based Practice Center. Davies GM, Geppert J, McClellan M, et al. Refinement of the HCUP quality indicators. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2001 May. (Technical review; no. 4). This document is available in PDF from the AHRQ Quality Indicators Web site.
- HCUPnet, Healthcare Cost and Utilization Project. [internet]. Rockville (MD): Agency for Healthcare Research and Quality (AHRQ); 2004 [Various pagings]. HCUPnet is available from the AHRQ Web site.

NQMC STATUS

This NQMC summary was completed by ECRI on February 3, 2006. The information was verified by the measure developer on March 6, 2006.

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